Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-23. (Canceled)

24. (Currently Amended) An isolated polypeptide the amino acid sequence of which comprises a sequence at least ~~70%~~ 95% percent identical to the amino acid sequence of SEQ ID NO: 2, wherein the polypeptide is a (R)-2,3-butanediol dehydrogenase that:

(a) produces (R)-acetoin by acting on (2R,3R)-2,3-butanediol using nicotinamide adenine dinucleotide as a coenzyme and produces (2R,3R)-2,3-butanediol by reducing 2,3-butanedione using a reduced form of nicotinamide adenine dinucleotide as a coenzyme; ~~and~~

(b) uses nicotinamide adenine dinucleotide as a coenzyme in an oxidation reaction;

(c) uses a reduced form of nicotinamide adenine dinucleotide as a coenzyme in a reduction reaction; and

(d) preferentially oxidizes a hydroxyl group of 2,3-butanediol in (R) configuration.

25. (Canceled)

26. (Currently Amended) An isolated polypeptide encoded by a polynucleotide that is at least ~~80%~~ 95% identical to a polynucleotide comprising the nucleotide sequence of SEQ ID NO: 1, wherein the polypeptide is a (R)-2,3-butanediol dehydrogenase that:

(a) produces (R)-acetoin by acting on (2R,3R)-2,3-butanediol using nicotinamide adenine dinucleotide as a coenzyme and produces (2R,3R)-2,3-butanediol by reducing 2,3-butanedione using a reduced form of nicotinamide adenine dinucleotide as a coenzyme; ~~and~~

(b) uses nicotinamide adenine dinucleotide as a coenzyme in an oxidation reaction;

(c) uses a reduced form of nicotinamide adenine dinucleotide as a coenzyme in a reduction reaction; and

(d) preferentially oxidizes a hydroxyl group of 2,3-butanediol in (R) configuration.

27. (Canceled)

28. (Currently Amended) An isolated polypeptide, wherein the polypeptide is an (R)-2,3-butanediol dehydrogenase that:

(a) produces (R)-acetoin by acting on (2R,3R)-2,3-butanediol using nicotinamide adenine dinucleotide as a coenzyme and produces (2R,3R)-2,3-butanediol by reducing 2,3-butanedione using a reduced form of nicotinamide adenine dinucleotide as a coenzyme;

(b) uses nicotinamide adenine dinucleotide as a coenzyme in an oxidation reaction;

(c) uses a reduced form of nicotinamide adenine dinucleotide as a coenzyme in a reduction reaction;

(d) preferentially oxidizes a hydroxyl group of 2,3-butanediol in (R) configuration;

(e) has a specific activity of about 100 U/mg or higher when purified;

(f) has an optimal pH of 10 for a glycerol oxidation reaction; ~~and~~

(g) has a molecular weight of about 36,000 Da when determined by sodium dodecyl sulfate-polyacrylamide gel electrophoresis and about 76,000 Da when determined by gel filtration, and

(h) has the sequence of an enzyme naturally produced by *Pichia angusta*.

29-33. (Canceled)

34. (Previously Presented) An isolated polypeptide the amino acid sequence of which consists of SEQ ID NO:2.

35. (Previously Presented) An isolated polypeptide the amino acid sequence of which comprises SEQ ID NO:2.

36. (Currently Amended) An isolated polypeptide the amino acid sequence of which comprises SEQ ID NO:2 with 0 to ~~50~~ 10 conservative amino acid substitutions, wherein the polypeptide is a (R)-2,3-butanediol dehydrogenase.

37-50. (Canceled)

51. (New) A substantially pure polypeptide, the amino acid sequence of which comprises a sequence at least 95% percent identical to the amino acid sequence of SEQ ID NO: 2, wherein the polypeptide is a (R)-2,3-butanediol dehydrogenase that:

(a) produces (R)-acetoin by acting on (2R,3R)-2,3-butanediol using nicotinamide adenine dinucleotide as a coenzyme and produces (2R,3R)-2,3-butanediol by reducing 2,3-butanedione using a reduced form of nicotinamide adenine dinucleotide as a coenzyme;

(b) uses nicotinamide adenine dinucleotide as a coenzyme in an oxidation reaction;

(c) uses a reduced form of nicotinamide adenine dinucleotide as a coenzyme in a reduction reaction; and

(d) preferentially oxidizes a hydroxyl group of 2,3-butanediol in (R) configuration.

52. (New) A substantially pure polypeptide encoded by a polynucleotide that is at least 95% identical to a polynucleotide comprising the nucleotide sequence of SEQ ID NO: 1, wherein the polypeptide is a (R)-2,3-butanediol dehydrogenase that:

(a) produces (R)-acetoin by acting on (2R,3R)-2,3-butanediol using nicotinamide adenine dinucleotide as a coenzyme and produces (2R,3R)-2,3-butanediol by reducing 2,3-butanedione using a reduced form of nicotinamide adenine dinucleotide as a coenzyme;

(b) uses nicotinamide adenine dinucleotide as a coenzyme in an oxidation reaction;

(c) uses a reduced form of nicotinamide adenine dinucleotide as a coenzyme in a reduction reaction; and

(d) preferentially oxidizes a hydroxyl group of 2,3-butanediol in (R) configuration.

53. (New) A substantially pure polypeptide, wherein the polypeptide is an (R)-2,3-butanediol dehydrogenase that:

(a) produces (R)-acetoin by acting on (2R,3R)-2,3-butanediol using nicotinamide adenine dinucleotide as a coenzyme and produces (2R,3R)-2,3-butanediol by reducing 2,3-butanedione using a reduced form of nicotinamide adenine dinucleotide as a coenzyme;

(b) uses nicotinamide adenine dinucleotide as a coenzyme in an oxidation reaction;

(c) uses a reduced form of nicotinamide adenine dinucleotide as a coenzyme in a reduction reaction;

(d) preferentially oxidizes a hydroxyl group of 2,3-butanediol in (R) configuration;

(e) has a specific activity of about 100 U/mg or higher when purified;

(f) has an optimal pH of 10 for a glycerol oxidation reaction;

(g) has a molecular weight of about 36,000 Da when determined by sodium dodecyl sulfate-polyacrylamide gel electrophoresis and about 76,000 Da when determined by gel filtration, and

(h) has the sequence of an enzyme naturally produced by *Pichia angusta*.

54. (New) A substantially pure polypeptide, the amino acid sequence of which consists of SEQ ID NO:2.

55. (New) A substantially pure polypeptide, the amino acid sequence of which comprises SEQ ID NO:2.

56. (New) A substantially pure polypeptide, the amino acid sequence of which comprises SEQ ID NO:2 with 0 to 10 conservative amino acid substitutions, wherein the polypeptide is a (R)-2,3-butanediol dehydrogenase.

57. (New) A method for producing an alcohol, the method comprising

reacting the isolated polypeptide of claim 24 with a ketone in the presence of a reduced form of nicotinamide adenine dinucleotide to generate an alcohol, and

recovering the generated alcohol.

58. (New) A method for producing an alcohol, the method comprising

reacting the isolated polypeptide of claim 26 with a ketone in the presence of a reduced form of nicotinamide adenine dinucleotide to generate an alcohol, and

recovering the generated alcohol.

59. (New) A method for producing an alcohol, the method comprising

reacting the isolated polypeptide of claim 28 with a ketone in the presence of a reduced form of nicotinamide adenine dinucleotide to generate an alcohol, and

recovering the generated alcohol.

60. (New) A method for producing an alcohol, the method comprising

reacting the isolated polypeptide of claim 34 with a ketone in the presence of a reduced form of nicotinamide adenine dinucleotide to generate an alcohol, and

recovering the generated alcohol.

61. (New) A method for producing an alcohol, the method comprising

reacting the isolated polypeptide of claim 35 with a ketone in the presence of a reduced form of nicotinamide adenine dinucleotide to generate an alcohol, and

recovering the generated alcohol.

62. (New) A method for producing an alcohol, the method comprising

reacting the isolated polypeptide of claim 36 with a ketone in the presence of a reduced form of nicotinamide adenine dinucleotide to generate an alcohol, and

recovering the generated alcohol.

63. (New) A method for producing an alcohol, the method comprising

reacting the substantially pure polypeptide of claim 51 with a ketone in the presence of a reduced form of nicotinamide adenine dinucleotide to generate an alcohol, and

recovering the generated alcohol.

64. (New) A method for producing an alcohol, the method comprising

reacting the substantially pure polypeptide of claim 52 with a ketone in the presence of a reduced form of nicotinamide adenine dinucleotide to generate an alcohol, and

recovering the generated alcohol.

65. (New) A method for producing an alcohol, the method comprising

reacting the substantially pure polypeptide of claim 53 with a ketone in the presence of a reduced form of nicotinamide adenine dinucleotide to generate an alcohol, and

recovering the generated alcohol.

66. (New) A method for producing an alcohol, the method comprising

reacting the substantially pure polypeptide of claim 54 with a ketone in the presence of a reduced form of nicotinamide adenine dinucleotide to generate an alcohol, and

recovering the generated alcohol.

67. (New) A method for producing an alcohol, the method comprising

reacting the substantially pure polypeptide of claim 55 with a ketone in the presence of a reduced form of nicotinamide adenine dinucleotide to generate an alcohol, and

recovering the generated alcohol.

68. (New) A method for producing an alcohol, the method comprising

reacting the substantially pure polypeptide of claim 56 with a ketone in the presence of a reduced form of nicotinamide adenine dinucleotide to generate an alcohol, and

recovering the generated alcohol.

69. (New) The method of claim 57, wherein the ketone is 2,3-butanedione and the alcohol is (2R,3R)-2,3-butanediol.

70. (New) The method of claim 58, wherein the ketone is 2,3-butanedione and the alcohol is (2R,3R)-2,3-butanediol.

71. (New) The method of claim 59, wherein the ketone is 2,3-butanedione and the alcohol is (2R,3R)-2,3-butanediol.

72. (New) The method of claim 60, wherein the ketone is 2,3-butanedione and the alcohol is (2R,3R)-2,3-butanediol.

73. (New) The method of claim 61, wherein the ketone is 2,3-butanedione and the alcohol is (2R,3R)-2,3-butanediol.

74. (New) The method of claim 62, wherein the ketone is 2,3-butanedione and the alcohol is (2R,3R)-2,3-butanediol.

75. (New) The method of claim 63, wherein the ketone is 2,3-butanedione and the alcohol is (2R,3R)-2,3-butanediol.

76. (New) The method of claim 64, wherein the ketone is 2,3-butanedione and the alcohol is (2R,3R)-2,3-butanediol.

77. (New) The method of claim 65, wherein the ketone is 2,3-butanedione and the alcohol is (2R,3R)-2,3-butanediol.

78. (New) The method of claim 66, wherein the ketone is 2,3-butanedione and the alcohol is (2R,3R)-2,3-butanediol.

79. (New) The method of claim 67, wherein the ketone is 2,3-butanedione and the alcohol is (2R,3R)-2,3-butanediol.

80. (New) The method of claim 68, wherein the ketone is 2,3-butanedione and the alcohol is (2R,3R)-2,3-butanediol.